

BVH TCP/IP Stream Format Description

Perception Axis supports real-time BVH format data export via TCP/IP protocol.

The default port for TCP/IP service is 7001. Once client connection detected, Perception Axis will send real-time BVH format data via TCP/IP protocol. The port can be changed in the Broadcasting tap of File-> Settings Menu.

1. Format description

A TCP/IP BVH data package including the orientation and position information of below bones:

Bone ID	00	01	02	03	04	05	06	20	19	18	17	16	15	07	08	9	10	35	36	37	38
Bone	Hip	RUL	RL	RF	LUL	LL	LF	S0	S1	S2	S3	N	H	RS	RA	RFA	RH	RH T1	RH T2	RH T3	RI HI
Sensor Id(Hex)	01	02	03	04	05	06	07			11			10	08	09	0A	0B		24	25	
Bone ID	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	11	12	13	14	67	68
Bone	RHI 1	RHI 2	RH I3	RI H M	RH M1	RH M 2	RH M 3	RI HR	RH R1	RH R2	RH R3	RI HP	RH P1	RH P2	RH P3	LS	LA	LF A	LH	LHT 1	LH T2
Sensor ID (Hex)	27	28			2B	2C			2F	30			33	34		0C	0D	0E	0F		44
Bone ID	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85				
Bone	LHT 3	LIHI	LH I1	LH I2	LHI 3	LI H M	LH M 1	LH M 2	LH M 3	LI HR	LH R1	LH R2	LH R3	LI HP	LH P1	LHP 2	LH P3				
Sensor ID (Hex)	45		47	48			4B	4C			4F	50			53	54					

Bone and data definition:

00: **Hip, root, global displacement in x, y, z (unit: cm) and global orientation in x, y, z(unit: degree)**

01: **RUL** (Right Up Leg), local rotation angle relative to hip and (for BVH with displacement) local displacement relative to Hip

02: **RL** (Right Leg), local rotation angle relative to RUL and (for BVH with displacement) local displacement relative to RUL

03: **RF** (Right Foot), local rotation angle relative to RL and (for BVH with displacement) local displacement relative to RL

04: **LUL** (Left Up Leg), local rotation angle relative to hip and (for BVH with displacement) local

displacement relative to Hip

05: **LL** (Left Leg), local rotation angle relative to LUL and (for BVH with displacement) local displacement relative to LUL

06: **LF** (Left Foot), local rotation angle relative to LL and (for BVH with displacement) local displacement relative to LL

20: **S0** (Spine0), local rotation angle relative to hip and (for BVH with displacement) local displacement relative to Hip

19: **S1** (Spine1), local rotation angle relative to S0 and (for BVH with displacement) local displacement relative to S0

18: **S2** (Spine2), local rotation angle relative to S1 and (for BVH with displacement) local displacement relative to S1

17: **S3** (Spine3), local rotation angle relative to S2 and (for BVH with displacement) local displacement relative to S2

16: **N** (Neck), local rotation angle relative to S3 and (for BVH with displacement) local displacement relative to S3

15: **H** (Head), local rotation angle relative to Neck and (for BVH with displacement) local displacement relative to Neck

07: **RS** (Right Shoulder), local rotation angle relative to S3 and (for BVH with displacement) local displacement relative to S3

08: **RA** (Right Arm), local rotation angle relative to RS and (for BVH with displacement) local displacement relative to RS

09: **RFA** (Right Forearm), local rotation angle relative to RA and (for BVH with displacement) local displacement relative to RA

10: **RH** (Right Hand), local rotation angle relative to RFA and (for BVH with displacement) local displacement relative to RFA

35: **RHT1** (Right Hand Thumb 1), local rotation angle relative to RH and (for BVH with displacement) local displacement relative to RH

36: **RHT2** (Right Hand Thumb 2), local rotation angle relative to RHT1 and (for BVH with displacement) local displacement relative to RHT1

37: **RHT3** (Right Hand Thumb 3), local rotation angle relative to RHT2 and (for BVH with displacement) local displacement relative to RHT2

38: **RIHI** (Right In Hand Index), local rotation angle relative to RH and (for BVH with displacement) local displacement relative to RH

39: **RHI1** (Right Hand Index 1), local rotation angle relative to RIHI and (for BVH with displacement) local displacement relative to RIHI

40: **RHI2** (Right Hand Index 2), local rotation angle relative to RHI1 and (for BVH with displacement) local displacement relative to RHI1

41: **RHI3** (Right Hand Index 3), local rotation angle relative to RHI2 and (for BVH with displacement) local displacement relative to RHI2

42: **RIHM** (Right In Hand Middle), local rotation angle relative to RH and (for BVH with displacement) local displacement relative to RH

43: **RHM1** (Right Hand Middle 1), local rotation angle relative to RIHM and (for BVH with displacement) local displacement relative to RIHM

- 44: **RHM2** (Right Hand Middle 2), local rotation angle relative to RHM1 and (for BVH with displacement) local displacement relative to RHM1
- 45: **RHM3** (Right Hand Middle 3), local rotation angle relative to RHM2 and (for BVH with displacement) local displacement relative to RHM2
- 46: **RIHR** (Right In Hand Ring), local rotation angle relative to RH and (for BVH with displacement) local displacement relative to RH
- 47: **RHR1** (Right Hand Ring 1), local rotation angle relative to RIHR and (for BVH with displacement) local displacement relative to RIHR
- 48: **RHR2** (Right Hand Ring 2), local rotation angle relative to RHR1 and (for BVH with displacement) local displacement relative to RHR1
- 49: **RHR3** (Right Hand Ring 3), local rotation angle relative to RHR2 and (for BVH with displacement) local displacement relative to RHR2
- 50: **RIHP** (Right In Hand Pinky), local rotation angle relative to RH and (for BVH with displacement) local displacement relative to RH
- 51: **RHP1** (Right Hand Pinky 1), local rotation angle relative to RIHP and (for BVH with displacement) local displacement relative to RIHP
- 52: **RHP2** (Right Hand Pinky 2), local rotation angle relative to RHP1 and (for BVH with displacement) local displacement relative to RHP1
- 53: **RHP3** (Right Hand Pinky 3), local rotation angle relative to RHP2 and (for BVH with displacement) local displacement relative to RHP2
- 11: **LS** (Left Shoulder), local rotation angle relative to S3 and (for BVH with displacement) local displacement relative to S3
- 12: **LA** (Left Arm), local rotation angle relative to LS and (for BVH with displacement) local displacement relative to LS
- 13: **LFA** (Left Forearm), local rotation angle relative to LA and (for BVH with displacement) local displacement relative to LA
- 14: **LH** (Left Hand), local rotation angle relative to LFA and (for BVH with displacement) local displacement relative to LFA
- 67: **LHT1** (Left Hand Thumb 1), local rotation angle relative to LH and (for BVH with displacement) local displacement relative to LH
- 68: **LHT2** (Left Hand Thumb 2), local rotation angle relative to LHT1 and (for BVH with displacement) local displacement relative to LHT1
- 69: **LHT3** (Left Hand Thumb 3), local rotation angle relative to LHT2 and (for BVH with displacement) local displacement relative to LHT2
- 70: **LIHI** (Left In Hand Index), local rotation angle relative to LH and (for BVH with displacement) local displacement relative to LH
- 71: **LHI1** (Left Hand Index 1), local rotation angle relative to LIHI and (for BVH with displacement) local displacement relative to LIHI
- 72: **LHI2** (Left Hand Index 2), local rotation angle relative to LHI1 and (for BVH with displacement) local displacement relative to LHI1
- 73: **LHI3** (Left Hand Index 3), local rotation angle relative to LHI2 and (for BVH with displacement) local displacement relative to LHI2
- 74: **LIHM** (Left In Hand Middle), local rotation angle relative to LH and (for BVH with displacement) local



displacement relative to LH

75: **LHM1** (Left Hand Middle 1), local rotation angle relative to LIHM and (for BVH with displacement) local displacement relative to LIHM

76: **LHM2** (Left Hand Middle 2), local rotation angle relative to LHM1 and (for BVH with displacement) local displacement relative to LHM1

77: **LHM3** (Left Hand Middle 3), local rotation angle relative to LHM2 and (for BVH with displacement) local displacement relative to LHM2

78: **LIHR** (Left In Hand Ring), local rotation angle relative to LH and (for BVH with displacement) local displacement relative to LH

79: **LHR1** (Left Hand Ring 1), local rotation angle relative to LIHR and (for BVH with displacement) local displacement relative to LIHR

80: **LHR2** (Left Hand Ring 2), local rotation angle relative to LHR1 and (for BVH with displacement) local displacement relative to LHR1

81: **LHR3** (Left Hand Ring 3), local rotation angle relative to LLR2 and (for BVH with displacement) local displacement relative to LHR2

82: **LIHP** (Left In Hand Pinky), local rotation angle relative to LH and (for BVH with displacement) local displacement relative to LH

83: **LHP1** (Left Hand Pinky 1), local rotation angle relative to LIHP and (for BVH with displacement) local displacement relative to LIHP

84: **LHP2** (Left Hand Pinky 2), local rotation angle relative to LHP1 and (for BVH with displacement) local displacement relative to LHP1

85: **LHP3** (Left Hand Pinky 3), local rotation angle relative to LHP2 and (for BVH with displacement) local displacement relative to LHP2

It is noted that all bone data, except for the hip, are local data defined in parent bone coordinate.

Sample data:

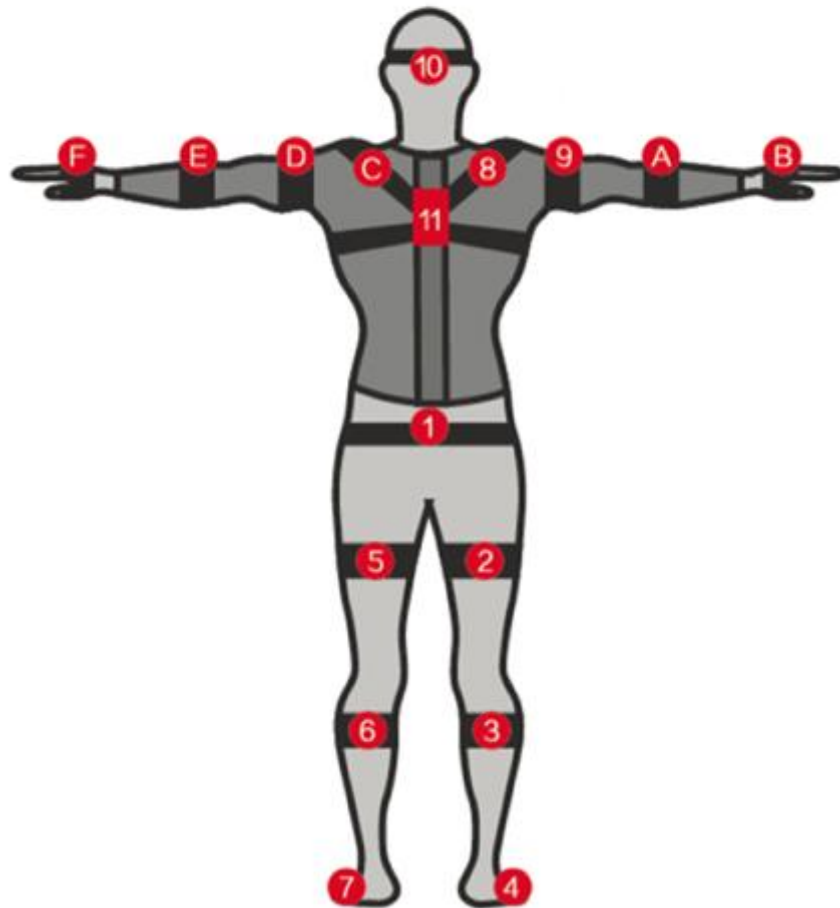
Hips Position			Hips Rotation			RightUpLeg Rotation			RightFoot Rotation			LeftUpLeg Rotation			LeftLeg Rotation			LeftFoot Rotation			etc.						
X	Y	Z	Y	X	Z	Y	X	Z	Y	X	Z	Y	X	Z	Y	X	Z	Y	X	Z	etc.						
43.62	102.72	151.18	-9.5	-0.47	-0.04	-6.9	-9.88	8.52	0	29.14	0	-21.75	-19.81	-1.86	22.59	-26.08	-6.62	0	43.91	0	19.84	-9.06	-8.4	2.71	2.66	0.64	0.7
43.67	102.61	151.28	-11.3	-0.47	-0.38	-6.2	-9.99	8.79	0	29.41	0	-20.74	-19.9	-2.23	24.92	-27.55	-6	0	46.75	0	18.49	-8.83	-9.23	3.7	2.66	0.83	0.9
43.72	102.5	151.38	-11.78	-0.46	-0.47	-6.15	-10.14	8.82	0	29.83	0	-20.37	-20.16	-2.23	25.7	-28.85	-5.66	0	49.09	0	17.39	-8.36	-9.79	2.93	2.62	0.88	0.7
43.83	102.41	151.54	-13.73	-0.36	-0.81	-5.38	-10.33	9.05	0	30.07	0	-19.3	-20.25	-2.53	27.77	-30.3	-5.06	0	51.47	0	16.14	-8.31	-10	4.02	2.53	1.11	1
43.95	102.32	151.69	-14.23	-0.35	-0.89	-5.23	-10.49	9.03	0	30.5	0	-19	-20.48	-2.43	28.08	-31.53	-4.71	0	53.22	0	15.35	-8.05	-9.62	3.01	2.42	1.18	0.8
44.1	102.23	151.82	-16.25	-0.37	-1.13	-4.34	-10.7	9.11	0	30.88	0	-17.93	-20.55	-2.59	29.54	-32.77	-3.85	0	54.73	0	15.23	-8.58	-9.54	4.06	2.4	1.31	1
44.28	102.15	151.95	-16.75	-0.39	-1.17	-4.2	-10.87	9.01	0	31.33	0	-17.67	-20.75	-2.5	29.39	-33.84	-3.2	0	55.67	0	15.33	-8.87	-9.07	2.75	2.26	1.39	0.7
44.44	102.08	152.1	-18.7	-0.57	-1.22	-3.42	-10.99	8.89	0	31.85	0	-16.43	-20.88	-2.65	30.33	-34.54	-2.14	0	55.97	0	15.25	-9.17	-8.62	3.73	2.34	1.43	0.9
44.59	102.01	152.28	-19.19	-0.61	-1.21	-3.28	-11.11	8.74	0	32.29	0	-16.1	-21.07	-2.54	29.83	-35.25	-1.19	0	55.84	0	14.96	-9.47	-8.06	4.22	2.38	1.42	1.1
44.73	101.93	152.46	-21.01	-0.93	-1.12	-2.67	-11.09	8.45	0	32.87	0	-14.84	-21.25	-2.71	30.27	-35.43	0.16	0	55.26	0	14.49	-9.95	-7.7	5.12	2.56	1.39	1.3
44.86	101.86	152.64	-21.5	-1	-1.08	-2.49	-11.17	8.28	0	33.27	0	-14.49	-21.46	-2.63	29.41	-35.81	1.37	0	54.26	0	13.78	-10.31	-7.15	5.6	2.62	1.36	1.4
44.99	101.79	152.83	-23.47	-1.25	-0.92	-1.72	-11.26	7.93	0	33.88	0	-13.21	-21.64	-2.89	29.66	-35.75	2.89	0	52.91	0	13.2	-10.7	-6.93	6.59	2.76	1.3	1.7
45.14	101.72	153.01	-23.97	-1.31	-0.87	-1.69	-11.35	7.74	0	34.29	0	-12.84	-21.85	-2.86	28.22	-35.88	4.34	0	51.23	0	12.62	-10.91	-6.7	5.16	2.66	1.39	1.3
45.3	101.64	153.23	-26	-1.46	-0.73	-1.08	-11.57	7.38	0	34.98	0	-11.47	-22.09	-3.21	27.71	-35.58	6.1	0	49.25	0	12.49	-11.04	-6.84	6.17	2.74	1.34	1.6
45.46	101.56	153.41	-23.97	-1.31	-0.87	-3.22	-11.42	7.31	0	35.16	0	-11.12	-22.49	-3.18	23.33	-35.76	7.66	0	46.85	0	12.17	-10.41	-6.48	3.21	2.54	1.57	0.8
45.65	101.46	153.63	-26	-1.46	-0.73	-2.48	-11.67	6.94	0	35.86	0	-9.84	-22.73	-3.58	22.56	-35.08	9.48	0	44.47	0	12.22	-9.83	-6.7	4.23	2.64	1.51	1.1
45.83	101.36	153.85	-26.51	-1.49	-0.7	-2.31	-11.85	6.74	0	36.39	0	-9.49	-23.02	-3.57	20.82	-34.52	11.1	0	41.9	0	11.74	-8.86	-6.67	2.79	2.58	1.67	0.7
46.01	101.23	154.13	-28.59	-1.63	-0.63	-1.36	-12.09	6.45	0	37.08	0	-8.35	-23.33	-3.92	20.2	-33.54	12.86	0	39.46	0	11.79	-7.97	-7.08	3.84	2.66	1.67	1

2. Bone map and coordinate system

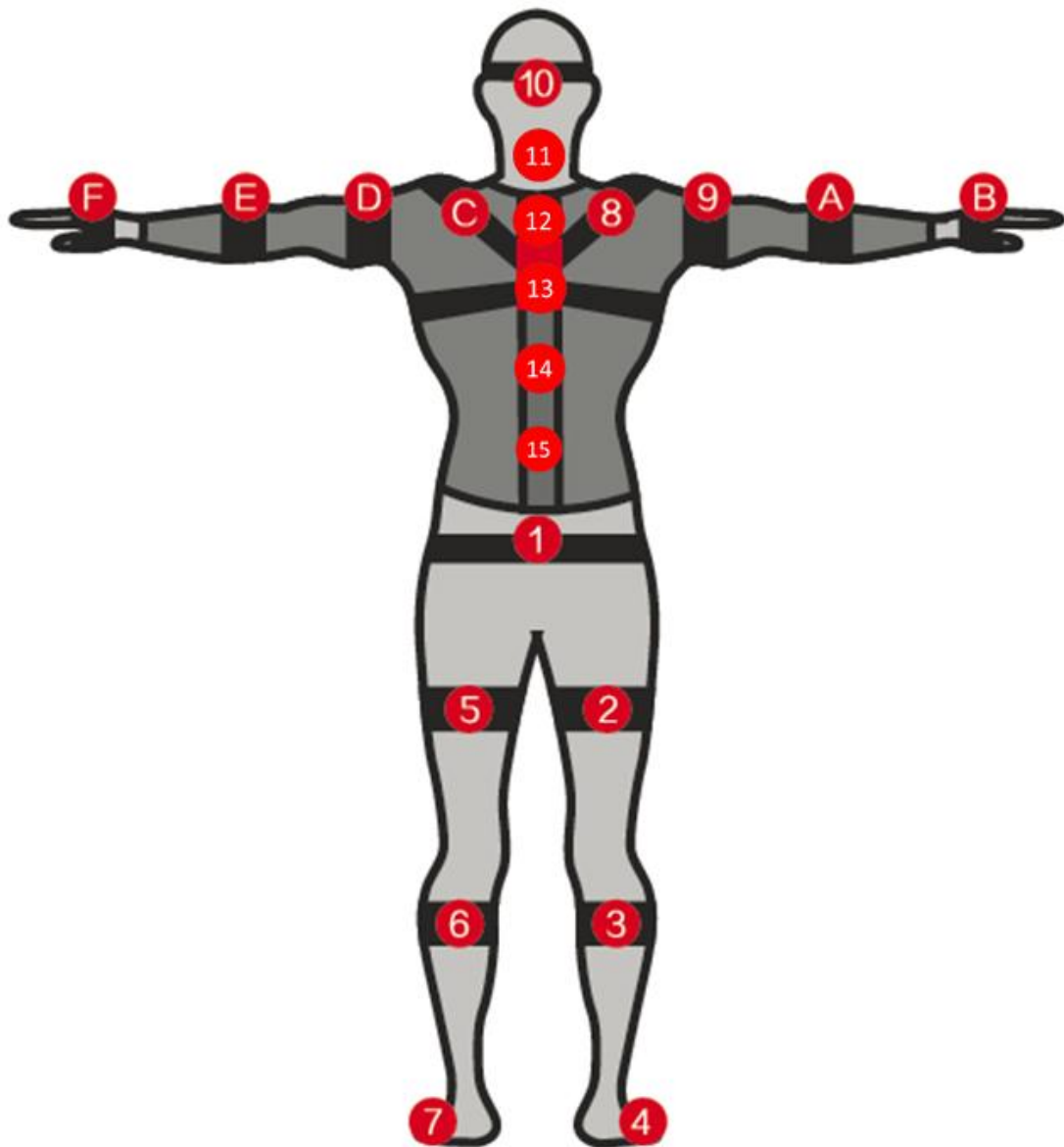
BVH coordinate definition:

Displacement is defined in local coordinate system of parent body segment, for hip (root): X -> north, Y -> up, Z -> east

Angle sequence is configurable, with default sequence YXZ, and defined in local coordinate system of parent body segment

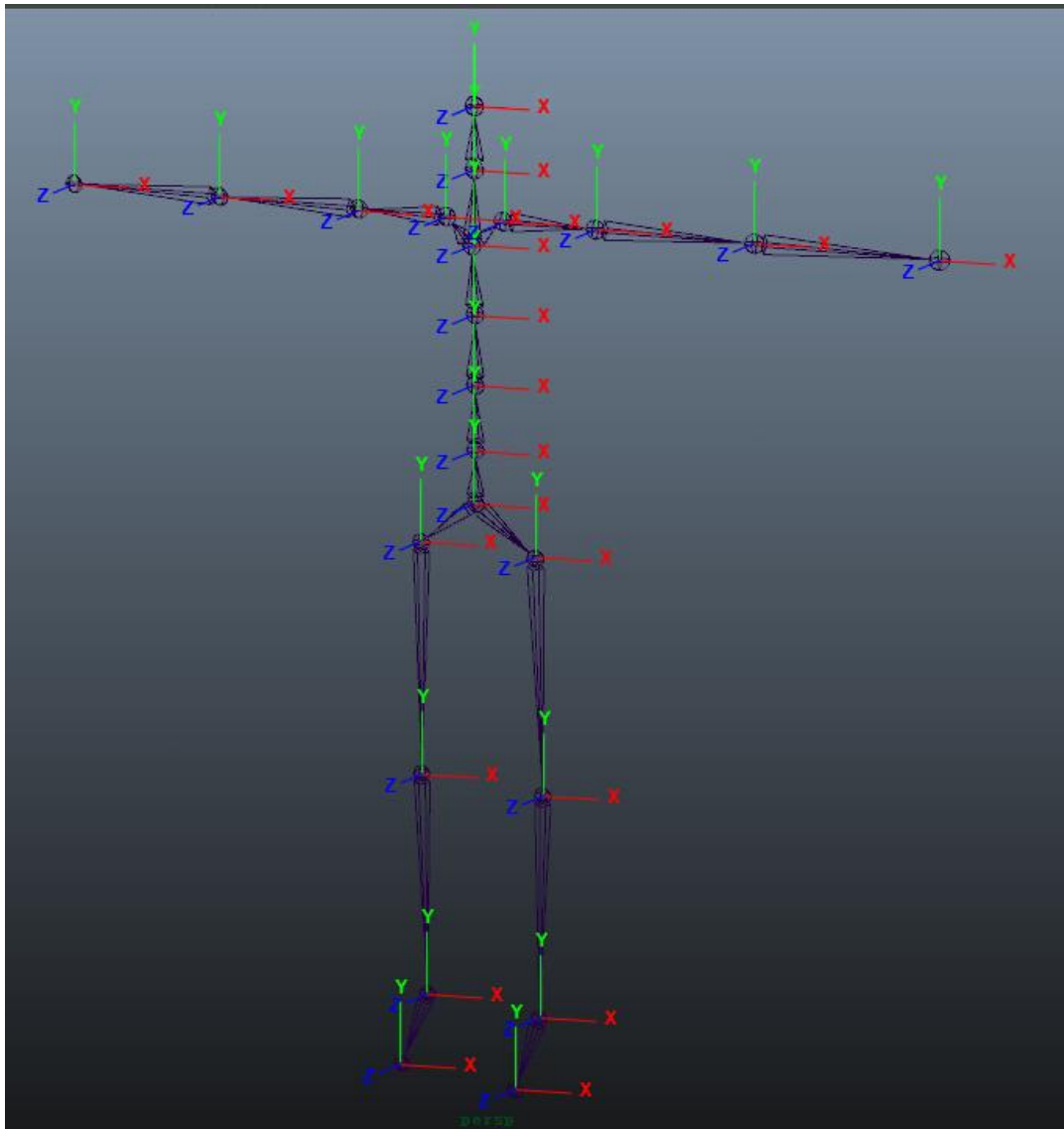


17 Sensors map



21 bones map

Initial bone pose is T-pose, with x->left, y->up, z->forward, as shown figure below:



Initial bone pose

3. Attached: BVH head file (without displacement)

HIERARCHY

ROOT Hips

```
{
  OFFSET 0.000000 104.194260 0.000000
  CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
  JOINT RightUpLeg
  {
    OFFSET -11.500000 0.000000 0.000000
    CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
    JOINT RightLeg
    {
      OFFSET 0.000000 -48.000000 0.000000
      CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
      JOINT RightFoot
      {
        OFFSET 0.000000 -48.000000 0.000000
        CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
        End Site
        {
          OFFSET 0.000000 -1.806452 18.064516
        }
      }
    }
  }
}
JOINT LeftUpLeg
{
  OFFSET 11.500000 0.000000 0.000000
  CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
  JOINT LeftLeg
  {
    OFFSET 0.000000 -48.000000 0.000000
    CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
    JOINT LeftFoot
    {
      OFFSET 0.000000 -48.000000 0.000000
      CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
      End Site
      {
```



```

    }
  }
}
JOINT Spine
{
  OFFSET 0.000000 13.878078 0.000000
  CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
  JOINT Spine1
  {
    OFFSET 0.000000 11.312473 0.000000
    CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
    JOINT Spine2
    {
      OFFSET 0.000000 11.779724 0.000000
      CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
      JOINT Spine3
      {
        OFFSET 0.000000 11.312473 0.000000
        CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
        JOINT Neck
        {
          OFFSET 0.000000 12.091224 0.000000
          CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
          JOINT Head
          {
            OFFSET 0.000000 9.000000 0.000000
            CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
            End Site
            {
              OFFSET 0.000000 18.000000 0.000000
            }
          }
        }
      }
    }
  }
  JOINT RightShoulder
  {
    OFFSET -3.500000 8.060816 0.000000
    CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation
    JOINT RightArm
    {
      OFFSET -17.500000 0.000000 0.000000

```



	CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation
Zrotation	JOINT RightForeArm { OFFSET -29.000000 0.000000 0.000000 CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation
Zrotation	JOINT RightHand { OFFSET -28.000000 0.000000 0.000000 CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation
Zrotation	JOINT RightHandThumb1 { OFFSET -2.702960 0.206400 3.388480 CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation	JOINT RightHandThumb2 { OFFSET -2.746160 -0.644800 2.834744 CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation	JOINT RightHandThumb3 { OFFSET -2.126080 -0.808800 1.594552 CHANNELS 6 Xposition Yposition Zposition
Yrotation Xrotation Zrotation	End Site { OFFSET -1.800000 -0.900000 1.800000 } } } } JOINT RightInHandIndex { OFFSET -3.500240 0.552000 2.148272 CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation	JOINT RightHandIndex1 { OFFSET -5.669520 -0.099200 1.085176 CHANNELS 6 Xposition Yposition Zposition Yrotation



Xrotation Zrotation

```
JOINT RightHandIndex2
{
    OFFSET -3.919920 -0.191200 0.199320
    CHANNELS 6 Xposition Yposition Zposition
```

Yrotation Xrotation Zrotation

```
JOINT RightHandIndex3
{
    OFFSET -2.222000 -0.138400 -0.082208
    CHANNELS 6 Xposition Yposition
```

Zposition Yrotation Xrotation Zrotation

```
End Site
{
    OFFSET -2.280000 0.000000
```

0.000000

```
}
```

```
}
```

```
}
```

```
}
```

```
}
```

```
JOINT RightInHandMiddle
```

```
{
```

```
    OFFSET -3.673840 0.561600 0.822346
    CHANNELS 6 Xposition Yposition Zposition Yrotation
```

Xrotation Zrotation

```
JOINT RightHandMiddle1
```

```
{
```

```
    OFFSET -5.618239 -0.091200 0.341108
    CHANNELS 6 Xposition Yposition Zposition Yrotation
```

Xrotation Zrotation

```
JOINT RightHandMiddle2
```

```
{
```

```
    OFFSET -4.273920 -0.291200 -0.200651
    CHANNELS 6 Xposition Yposition Zposition
```

Yrotation Xrotation Zrotation

```
JOINT RightHandMiddle3
```

```
{
```

```
    OFFSET -2.668640 -0.207200 -0.240782
    CHANNELS 6 Xposition Yposition
```

Zposition Yrotation Xrotation Zrotation

```
End Site
```

```
{
```

```
    OFFSET -2.280000 0.000000
```



0.000000

```

    }
  }
}
}
}
JOINT RightInHandRing
{
  OFFSET -3.653760 0.588000 -0.140000
  CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation

  JOINT RightHandRing1
  {
    OFFSET -5.000000 -0.024000 -0.521600
    CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation

    JOINT RightHandRing2
    {
      OFFSET -3.652000 -0.285600 -0.742400
      CHANNELS 6 Xposition Yposition Zposition
Yrotation Xrotation Zrotation

      JOINT RightHandRing3
      {
        OFFSET -2.548000 -0.186400 -0.441600
        CHANNELS 6 Xposition Yposition
Zposition Yrotation Xrotation Zrotation

        End Site
        {
          OFFSET -2.160000 0.000000
0.000000
        }
      }
    }
  }
}
JOINT RightInHandPinky
{
  OFFSET -3.432800 0.509600 -1.304800
  CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation

  JOINT RightHandPinky1
  {
    OFFSET -4.494400 -0.024000 -1.176000
```

CHANNELS 6 Xposition Yposition Zposition Yrotation

Xrotation Zrotation

JOINT RightHandPinky2

 $\{$

OFFSET -2.848800 -0.164000 -0.904000

CHANNELS	6	Xposition	Yposition	Zposition
----------	---	-----------	-----------	-----------

Yrotation Xrotation Zrotation

JOINT RightHandPinky3

 $\{$

OFFSET -1.765600 -0.142400 -0.662400

CHANNELS	6	Xposition	Yposition
----------	---	-----------	-----------

Zposition Yrotation Xrotation Zrotation

End Site

 $\{$

OFFSET	-1.680000	0.000000
--------	-----------	----------

0.000000

}

}

}

}

}

}

}

}

}

JOINT LeftShoulder

 $\{$

OFFSET 3.500000 8.060816 0.000000

CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation Zrotation

JOINT LeftArm

 $\{$

OFFSET 17.500000 0.000000 0.000000

CHANNELS	6	Xposition	Yposition	Zposition	Yrotation	Xrotation
----------	---	-----------	-----------	-----------	-----------	-----------

Zrotation

JOINT LeftForeArm

 $\{$

OFFSET 29.000000 0.000000 0.000000

CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation

Zrotation

JOINT LeftHand

 $\{$

OFFSET 28.000000 0.000000 0.000000

CHANNELS 6 Xposition Yposition Zposition Yrotation Xrotation



Zrotation

JOINT LeftHandThumb1

{

OFFSET 2.702960 0.206400 3.388480

CHANNELS 6 Xposition Yposition Zposition Yrotation

Xrotation Zrotation

JOINT LeftHandThumb2

{

OFFSET 2.746160 -0.644800 2.834744

CHANNELS 6 Xposition Yposition Zposition Yrotation

Xrotation Zrotation

JOINT LeftHandThumb3

{

OFFSET 2.126080 -0.808800 1.594552

CHANNELS 6 Xposition Yposition Zposition

Yrotation Xrotation Zrotation

End Site

{

OFFSET 1.800000 -0.900000 1.800000

}

}

}

}

JOINT LeftInHandIndex

{

OFFSET 3.500000 0.552000 2.148000

CHANNELS 6 Xposition Yposition Zposition Yrotation

Xrotation Zrotation

JOINT LeftHandIndex1

{

OFFSET 5.668800 -0.099200 1.084800

CHANNELS 6 Xposition Yposition Zposition Yrotation

Xrotation Zrotation

JOINT LeftHandIndex2

{

OFFSET 3.920000 -0.191200 0.199200

CHANNELS 6 Xposition Yposition Zposition

Yrotation Xrotation Zrotation

JOINT LeftHandIndex3

{

OFFSET 2.221600 -0.138400 -0.082400

CHANNELS 6 Xposition Yposition

Zposition Yrotation Xrotation Zrotation



```
0.000000
End Site
{
    OFFSET 2.280000 0.000000
}
}
}
}
}
JOINT LeftInHandMiddle
{
    OFFSET 3.673600 0.561600 0.822320
    CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation

JOINT LeftHandMiddle1
{
    OFFSET 5.617840 -0.091200 0.340800
    CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation

JOINT LeftHandMiddle2
{
    OFFSET 4.273600 -0.291200 -0.200800
    CHANNELS 6 Xposition Yposition Zposition
Yrotation Xrotation Zrotation

JOINT LeftHandMiddle3
{
    OFFSET 2.668800 -0.207200 -0.240800
    CHANNELS 6 Xposition Yposition
Zposition Yrotation Xrotation Zrotation

0.000000
End Site
{
    OFFSET 2.280000 0.000000
}
}
}
}
}
JOINT LeftInHandRing
{
    OFFSET 3.653760 0.588000 -0.140000
    CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation
```



	JOINT LeftHandRing1
	{
	OFFSET 5.000000 -0.024000 -0.521600
	CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation	
	JOINT LeftHandRing2
	{
	OFFSET 3.652000 -0.285600 -0.742400
	CHANNELS 6 Xposition Yposition Zposition
Yrotation Xrotation Zrotation	
	JOINT LeftHandRing3
	{
	OFFSET 2.548000 -0.186400 -0.441600
	CHANNELS 6 Xposition Yposition
Zposition Yrotation Xrotation Zrotation	
	End Site
	{
	OFFSET 2.160000 0.000000
0.000000	
	}
	}
	}
	JOINT LeftInHandPinky
	{
	OFFSET 3.432800 0.509600 -1.304800
	CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation	
	JOINT LeftHandPinky1
	{
	OFFSET 4.494400 -0.024000 -1.176000
	CHANNELS 6 Xposition Yposition Zposition Yrotation
Xrotation Zrotation	
	JOINT LeftHandPinky2
	{
	OFFSET 2.848800 -0.164000 -0.904000
	CHANNELS 6 Xposition Yposition Zposition
Yrotation Xrotation Zrotation	
	JOINT LeftHandPinky3
	{
	OFFSET 1.765600 -0.142400 -0.662400
	CHANNELS 6 Xposition Yposition

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4. Revision history

Revision	Author	date	Description/changes
D1	He Yuanhui	7/1/2013	Initial released
D2	He Yuanhui	1/6/2014	Added: Modified: Data format desc.
D3	He Yuanhui	6/24/2014	Added: Modified: Default service port.
D4	He Yuanhui	11/25/2014	Added: Add fingers data Modified:
D5	Chen Jinzhou	12/25/2014	Modified:
D6	He Yuanhui	1/21/2015	Modified: Data sample chart